

Hunter College - CUNY
Dept. of Geography & Environmental Science
GEOG 101 Lecture Presentation Summary
Spring 2021

NOTE: *In the absence of in-person lecturing and face-to-face explanation of the material presented in the PowerPoint lecture slides, I will summarize the content of each lecture presentation, stressing the concepts and interrelationships that are essential to an introductory geography course. In essence, it is like giving you a transcript of my classroom lectures.*

If, after reading this summary and viewing the lecture presentation, the imbedded short videos and hot links to articles, you have any questions, or if you would like to contribute a comment or two, need clarification by other examples or have additional information on the topic, please do not hesitate to email me at agrande@hunter.cuny.edu.

LECTURE 09: Introduction to Part II – Physical Geography

- The purpose of this lecture is to introduce the topics and themes that we will cover in the second part of this course. Our emphasis is on the physical characteristics of the Planet Earth. Along with this, we will look at the interrelationship between these physical characteristics and the people living with them. This sets the stage for Part III: Human Geography.
NOTE: *Part II of this course contains topics that have more detail and complex discussions because it introduces the various science-oriented aspects of physical geography and the earth sciences. Try not to be overwhelmed by this material. For the most part, we are just lightly touching on these topics. For those of you with a keen interest, there are full courses offered by the Geography Department*
- **Slide 2:** Here are the major headings for Part II. Textbook chapters 2, 3, 4 and 5 cover the material. After this Introduction, we look at the Earth-Sun Relationships. Without the Sun, life on Earth as we know it would not exist. The third section delves into Earth Systems: Hydrosphere, Atmosphere and Lithosphere. We will see the interrelationship between these three and the Sun. The last section covers Earth Habitat: Earth as a home for people. Under Biosphere (zone of life) we learn what makes the planet livable. We get introduced to the complexity of Natural Controls and Cycles and realize that nothing stands alone on earth. Human Impact covers peoples' interaction with dynamic earth and also how the actions of people influence/interfere with natural processes. The Natural Hazards section brings out the subjective interpretation of a natural process: when a process hurts or inconveniences people, it is labelled a hazard. We end Part II of the course with Earth Resources. They are the components of earth environment that people determined as being useful and have placed a value on them. This becomes a segue to economic and political geography in Part III.
- **Slide 3: Interrelationship.** Interrelationship is an important concept in geography. People are constantly interacting with nature. Earth processes are dynamic – they contain variables that are always in flux. These processes (as for example, the weather) are always changing. Chapters 2 and 3 focus on them. Since people interact with these processes, they have an impact on them – some short term, others very long term. Chapters 4 and 5 discusses them. Always remember that when one thing changes, other things change, too. **Nothing stands alone on earth.**
 - *Because of this dynamic interrelationship between earth processes and people, I tend to move between all 4 chapters at the same time, rather than going chapter by chapter. I recommend that you flip through the pages of all 4 chapters now, looking at the pictures and diagrams, then going back to specific chapter sections as we cover a specialized topic.*

- **Slide 4: Landscapes.** In geography, the landscape becomes a way of studying areas the visual components of the earth. There are two types of landscapes: **Physical Landscape** that focuses on the natural conditions present and **Cultural Landscape** which is the imprint of human activity on the physical landscape, as economic activity, architecture and inventions, to name a few. The three photos present both a physical landscape and a cultural landscape. We begin to “see” things in each photo. In some cases, we can associate the component parts with areas of the world; we recognize places without seeing names. We can also “see” and therefore identify components of the physical environment. What do the photos show?
 - **Cork, Ireland.**
 - Low population density (few houses), rural area with agricultural activity.
 - Coastal indentation ringed by rugged, short mountains
 - Rock layers are tilted (not horizontal) indicating an anticline geologic formation.
 - Small light-colored beach; maybe artificial.
 - Lush vegetation indicative of ample rainfall.
 - Also indicative of rainfall is slanted roofs. (*Arid areas tend to have flat roofs.*)
 - All buildings have large chimneys, an indication of the need for heat.
 - Land is divided by hedgerows into irregular fields, an indication of traditional English “Metes and Bounds” land division.
 - **Southeast Asia**
 - Extremely low population density rural area; no houses visible (can’t waste flat land for buildings).
 - Hillside is terraced to create flat land for agriculture (most likely rice), a traditional Asian farming method in areas where flat land is limited.
 - Terracing is very labor-intensive; terrace borders need to be maintained to prevent erosion; machinery cannot be used.
 - **Virginia, USA**
 - Appears to be a low population density agricultural area until you look closely at the bottom of the photo. Here are what looks like a 20th century suburb, with a pattern of curved streets and similar looking houses occupying small plots of land. This must be near a populated area for developers to encroach into farmland.
 - In the upper portion of the photo, the agricultural fields look similar to Cork, Ireland. The fields are irregular and separated by vegetation, not fences. This is a vestige of English traditional land division used when the Virginia Colony was settled.
- **Slides 5-7: People and their Physical Environment.** These 3 slides look at the transformation of a physical landscape into a cultural landscape, after the physical landscape has been evaluated by people. The result is the “human imprint” on the land: **cultural landscape**.
 - **Slide 5** has a sketched diagram (A) next to an aerial photograph of this area: there is rugged terrain with steep-sided hills and canyons, an alluvial plain (fertile flat land) created by the seasonal flooding of the Santa Clara River.
 - **Slide 6** adds the conditions to the terrain: the physical characteristics of the landscape (B), including climate characteristics, availability of water, local temperature gradients, and soil properties, especially the indication of salt in the soil.
 - **Slide 7** adds the human imprint (C) after assessment. The rugged hill-sides are used for grazing; the canyons are used for fruit and grain; the alluvial plain’s use for

agriculture is based on temperature, water supply and soil salinity. The end result is a cultural landscape.

- **Slide 8: Focus on People.** People analyze their surrounding and make decisions. Natural processes are recognized and dealt with. However, when the process hurts or inconveniences people, it is termed a “hazard.” A “natural hazard” is the same as a natural process but with the proviso that there may be major inconvenience or death. *We need to be aware that people can disturb nature and are disruptive to natural processes.*
- **Slide 9: Risk Factor.** Risk is a necessary evil when people interact with nature. What are the odds of it happening once, twice or repeatedly? Should we build in a flood zone? It is wise to live in an area prone to earthquakes? What about tsunamis? Landslides? Blizzards? Drought? Wildfires? *Look at the cartoon. Why is there a rowboat on the roof tied to the chimney? Geographic risk equations are used by insurance companies to assess the odds of something bad happening and those odds are used to determine rates. California requires real estate agents to disclose earthquake risk for properties. Insurance companies hire geographers who have a background in statistics.*
- **Slide 10: Environmental Interrelationships - change variables.** This concept cannot be stressed enough. When one thing changes on earth, other things related to it will change, too. This is because of the codependence existing among all earth processes and life forms.
- **Slide 11: Interrelationship - Global warming example.** This is simple diagram looking at some of the ramifications of global warming which can (a) occur naturally (e.g., the end of the last Ice Age) or (b) be triggered by human activity. A very detailed diagram can be constructed specific to a local area or type of vegetation or the spread of disease, using variables and a flowchart with “YES/NO” answers to questions. *The effect on the airline industry is highlighted in the box. A flowchart diagram can be constructed for global cooling.*
- **Slide 12: Earth Statistics.** The chart shows rounded off figures concerning the dimensions of the earth and its parts. Note that the earth is actually a “small place”. It is only 25,000 miles around the equator; only 8000 miles going through the center of the earth to the other side. The surface area of the earth is 197 million sq. mi., but land is just 58 million sq. mi. or 29%. That means 71% of the surface is water. *(Maybe that is why spacecraft from other worlds have not landed on Earth. NASA would avoid us!)* This 29% is home to a rapidly growth 7.85 billion people. **Use the hot link on the slide to see world and country population increases in real time.**
- **Slides 13 and 14: Earth Segments.** Slide 13 shows (a) land vs. water, (b) the relative sizes of the oceans, and (c) the relative sizes of the continents. Slide 14 puts it all together as a color-coded pie graph.
- **Slide 15: Spaceship Earth.** Some earth scientists have likened the earth environment to that of the inside of a spacecraft carrying humans. In order for life to survive within the spacecraft, certain conditions must be met. **So, too, on earth.** Life as we know it exists within a closed environment (atmosphere), dependent on criteria composed of gaseous elements, temperature and moisture. Once the “comfort zone” is drastically changed, the existence and survival of life as we know it becomes less comfortable and more difficult for it to thrive.
- **Slide 16: Layers of the Atmosphere.** A cross-section of the earth’s atmosphere is shown here. While traces of the atmosphere are found over 6000 miles from the surface, the densest portion of the atmosphere is concentrated within 7 miles above the surface (*the tropo-*

sphere). Temperature varies within the layers of the atmosphere based on its gaseous composition. Ozone is a key component in the regulation of temperature, as it absorbs heat while protecting the surface from the ultraviolet radiation (*UV rays*) of the sun (*ozone layer of the stratosphere*). Look closely at the bottom portion of the diagram. Note Mt. Everest and the area used by jet aircraft.

- **Slide 17: Role of the Geographer and Geographic Literacy.** As we become geographically literate, we will become versed in the variables that support life on earth. This should translate into a better understanding of the interrelationships, care about earth environment, awareness of human impact; realization that the earth's resources are not evenly distributed and there always will be haves and have-nots, and knowledge of how sustainable development within a habitat and it's carrying capacity can be used to work with nature without harming nature.
- **Slide 18: NEXT – Earth-Sun Relationships**

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